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[54] DEOXYRIBONUCLEIC ACID MOLECULES USEFUL AS PROBES FOR DETECTING ONCOGENES INCORPORATED INTO CHROMOSOMAL DNA

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[57]

ABSTRACT

A single-stranded deoxyribonucleic acid molecule having a length of less than about 25 kb comprises at least three distinct nucleotide sequences which are the sites for incorporation into a chromosome of a deoxyribonucleic acid molecule encoding a deleterious gene. Deoxyribonucleic acid probes have been prepared from such molecules and are useful as hybridization probes for detecting chromosomal deoxyribonucleic acid which has a deoxyribonucleic acid molecule encoding a deleterious gene, i.e. oncogene, incorporated therein.

A single-stranded deoxyribonucleic acid molecule derived from human chromosome 22 which is about 5.8 kb in length contains sites for incorporation of a deoxyribonucleic acid molecule encoding the oncogene c-abl derived from human chromosome 9. Deoxyribonucleic acid probes have been prepared from this molecule and used to detect the abnormal Philadelphia chromosome and chronic myelocytic leukemia.

26 Claims, 4 Drawing Figures

